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ABSTRACT

Because students spend only 19% of their time each year in school, families and schools need to focus jointly on "the 81% solution" to improve learning beyond the school day and year. This paper discusses examples of the 81% solution that are being implemented in a variety of communities by the LINCT (Learning and Information Networking for Community via Telecomputing) Coalition, a nationwide coalition of socially concerned, nonprofit organizations working together to help communities to achieve universal access to electronic information and learning via community networks and the Internet. The goal of LINCT is the achievement of electronic equity at the community level by enabling even the poorest members of a community to "learn and earn" home computers via "electronic sweat equity." Communities are finding that this process is helping to strengthen in-school and at-home learning for students and job-ready computer skills for adults. (LPP)

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Families, Equity, and Technology:
"The 81 Percent Solution" Revisited

Ken Komoski ■

Abstract

Because students spend only 19% of their time each year in school, families and schools need to jointly focus on "the 81% solution" to improve learning beyond the school day and year. This paper discusses examples of the 81% solution that are being implemented in a variety of communities by the LINCT Coalition, a nationwide coalition of socially concerned, nonprofit organizations working together to help communities to achieve universal access to electronic information and learning via community networks and the Internet. LINCT's goal is the achievement of electronic equity at the community level by enabling even the poorest members of a community to "learn and earn" home computers via "electronic sweat equity." Communities are finding that this process is helping to strengthen in-school and at-home learning for students and job-ready computer skills for adults.

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Introduction

My name is Ken Komoski, and what I want to share with you today is an update on what has been going on with families, learning, and technology in some communities as a result of ideas I put together 4 years ago in a "Commentary" piece published in *Education Week* (Komoski, 1994). I called the piece "The 81 Percent Solution—Restructuring Our Schools and Communities for Lifelong Learning."

I arrived at the "81%" idea after some conversations with a colleague and a few calculations, plus perusal of what others have concluded about the percentage of time—in the course of a year—that the average K–12 student spends in school-related learning. The most generous interpretation of these conclusions was this: each year, the average school-ager spends about 19% of his or her waking hours being exposed to school-related learning opportunities. (Had I taken the 9% conclusion reported by former Assistant Secretary of Education "Checker" Finn regarding learners in school Title I programs, we would be talking about "the 91% solution.")

The point of my little time study was simply this: if we are concerned about the development of lifelong learners as a goal of educational reform, we might want to pay attention to how and what learners are learning during their out-of-school time. This period is the proving time for developing lifelong learning skills—especially for youngsters in poor communities. In poor communities, in particular, we need to have affordable and rewardable ways of engaging school-agers in purposeful, voluntary learning beyond school time. They need to be engaged in incentive-driven, cooperative work with other learners that results in two learning outcomes:

- skills and knowledge that will improve their school performance and
- the ability to perform well outside of school on skills that are critically important to their lifelong ability to continuously earn a living in a change-driven economy.

In 1994, these challenging thoughts prompted me to say that educational reform was likely doomed as long as the reformers kept focusing on improving schools without focusing also on ways of improving student learning outside of the limiting nature of in-school time. This vision may seem unrealizable, but I believe that every educator worthy of the name recognizes its validity.

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My goal here is to provide you with information about how some communities are working toward achieving such a vision. In the process, perhaps it may stimulate some of you to work on achieving this vision in your own communities. I also want to suggest how communities can help one another to increase the probability that this vision will become a reality in as many communities as possible, as soon as possible. But let's start with the reality addressed in "The 81 Percent Solution."

Lifelong Learning

Everyday, all children—rich, poor, and otherwise—constantly learn many things from many sources other than school. They can't avoid it. They are constantly sponging up and processing sights, sounds, events, experiences, and feelings. While some of this sponging-up process happens in school, many more emotionally formative parts of this learning go on at home: from family and other adults, some of whom are physically present, but many of whom appear on, or are responsible for, the television programs and commercials that students spend more time watching (a well-documented 25%) than the 19% of time spent in school. In those cases where students are living in "computer-have" households, many trade off some television "learning" time for time spent with a home computer.

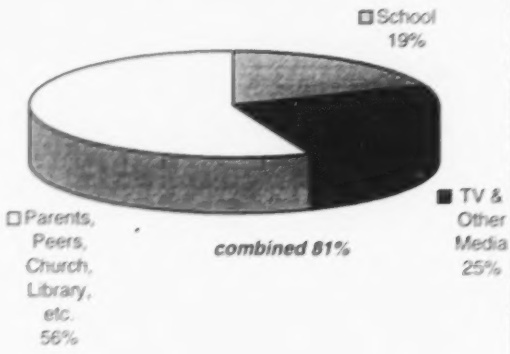
As any parent knows all too well, their children spend a good deal of time learning from and with peers, as well as from people, events, and resources in their communities: from libraries and museums to drug dealers and acts of violence. Unfortunately, for some children—whether poor, rich, or in between—home is a place where the latter two "learning opportunities" are all too available.

In other words, all learners live within, share in, and are parts of a complex "learning ecology" (Cremin, 1976; Niebuhr, 1984) of which K–12 schooling is only one part. And as K–12 students, in particular, seem to be so open for learning, how can we best ensure that they are building learning habits that will serve them, their families, and their communities well over time?

This is an important question. It's one to which schools pay too little attention. Why? Just ask any teacher: "It's because we just don't have the time."

But students do have the time. They have at least 81% of their time during which they are forming habits that will affect their lifelong attitude toward learning. If they associate learning solely with schooling, they will develop an attitude that is both limited and limiting—especially in a world in which more and more people are having to learn and then re-learn a living every few years. However, if they come to associate learning with self-development, self-esteem, and personal and family stability, both economically and socially, their attitude and the path and promise of their lives will have become quite different. They will become lifelong learners.

Student Time by Influences within the Overall Learning Ecology



Task: Optimize the Learning Ecology (The 81% Solution*)

* The 81 Percent Solution: Restructuring Our Schools and Communities for Lifelong Learning
P. Kenneth Komoski, Education Week, January 26, 1994

Now the very fact that you are where you are right now, doing what you are doing, is a clear indicator that you are a lifelong learner. As you acknowledge this fact, I want you to consider the extent to which the time you spent in school made you a lifelong learner. In addition to schooling, for most of us, our home life and other influences such as a public library, a particular book, a museum, perhaps media experiences, plus other out-of-school experiences with particular persons, even peers, were all parts of the learning ecology that helped shape us.

School-age children living in households that are at or below poverty level, in a "have-not" community,

tend to have far fewer positive out-of-school learning experiences. Their total learning ecology is often more toxic than their physical environment—filled with far more negative learning experiences than the ecology of more privileged peers. Even their schools produce less positive learning experiences, if only because of their less-than-adequately funded learning resources. Ironically, the one equally funded "learning" resource they share with their more privileged peers is their daily at-home immersion in television programming. And depending on at-home viewing rules, the learning they are experiencing ranges from developmentally enhancing and "cool" to tepid and toxic. Much of this learning comes from commercial messages geared to convincing "haves" that they need to have more than they already have. Exactly what these "shared" learning experiences impart to poverty-level learners is an interesting question. So today, more than ever before, a large part of the home life and community environment of the young learner is filled with largely self-selected, peer-influenced at-home television and other mediated "learning."

School–Community Networking

Having made these points in "The 81 Percent Solution," I provided examples of how through at-home access to Internet-based, school–community networking in one community I had visited, learners in "computer-have" families were able to access useful at-home learning resources via a community network, and that some were engaging in cooperative online learning experiences with peers. I pointed out that for these learners, these experiences amounted to a self-selected reduction of their also self-selected television and other media-spent time. In this community, I had discovered that at selected grades, children from poverty-level, "computer-have-not" families were being provided "loaner computers" by their schools, so that they might use the community network for learning, and their parents might use it for information and communication.

I suggested that the goal, not just for this community but for all other communities as well, ought to be to enable families living in or close to the poverty line to acquire used computers donated by businesses and government agencies—having recently read in the *Wall Street Journal* that in the previous year (1993) approximately 15 million used business computers were retired. There were clearly enough used computers coming out of businesses (plus government and private homes) to enable communities to move beyond providing "loaner-computers" at a few grade levels to enabling all of a community's "have-not" families to become computer owners. Here was a way to "level the learning field" between a community's "computer haves" and "have-nots." To encourage donations, I suggested that Washington provide special tax write-offs to businesses that donated used computers to community-based efforts of the sort I was describing.

But as important as getting donated computers was to carrying out this vision, it was more important to envision a way to use the used computers as incentives to motivate students and members of their family to commit to doing the hard work involved in learning how to make effective use of these computers in their homes. Shortly after publication of "The 81 Percent Solution," two colleagues and I came up with some further ideas about how to accomplish this goal. To put these ideas into action, we formed a coalition of nonprofit organizations with expertise in community and family development, education, and technology.

The LINCT Coalition

The Coalition (Learning and Information Networking for Community via Telecomputing—LINCT) has the singular mission of helping interested communities to enable "computer-have-not" families to "learn and earn" home computers in two ways: via community-managed after-school, learn-and-earn, peer-computer-tutoring work for children and via welfare-to-work, learn-and-earn computer training for parents and other adults (Komoski & Priest,1996).

What children and adults are actually earning are Time Dollars, a tax-exempt community-managed currency pioneered by one of the Coalition's co-founders, Dr. Edgar Cahn of the Time Dollar Institute in Washington, DC. Another co-founder, Dr. Curtiss Priest of the Center for Information, Technology and Society, has brought expertise in community networking as a means of facilitating home–school networking, and for managing the community-wide use of Time Dollars as a local electronic system for recording and rewarding all types of community volunteer work. Other member organizations have brought complementary expertise. My own organization, the Educational Products Information Exchange, education's most comprehensive source of information on electronic learning

resources, focuses on identifying those computer learning resources that will be most helpful for the children and adults who are learning and earning home computers in the communities that are being helped by the Coalition.

Community Experiences

So, 4 years after publication of "The 81 Percent Solution," I can report that some progress is being made in helping communities to make this vision a reality. I wish I could say that there are hundreds of communities in which the vision is a fully functioning reality. But although I can't say that, what I can report is that the vision is being turned into reality in at least a few communities in the East, one in the Midwest, and two in the West.

The first of these was my home community in rural Eastern Long Island, New York, where by working with both school–community collaboratives and the county departments of labor and social services, the LINCT Coalition has established volunteer, Time-Dollar-driven computer training programs that have been enabling poverty-level parents to learn and earn home computers and networking access, plus child care and other needed services. They are doing these things while fulfilling their 20-hour-per week workfare requirements. These efforts are being supported in part by a grant to the Coalition from the local county legislature and from the Civic Network Program of the Corporation for Public Broadcasting (CPB).

With the help of this CPB support, Web-based community network software is being developed to facilitate home–school communications and the community-wide record keeping of Time-Dollar work. This network software has the unique feature of enabling parents, students, and other network users to input to the community network's Web site either by computer or directly by phone using interactive-voice response (IVR) telephony.

The Coalition has recently gained the cooperation of five additional Long Island school–community collaboratives in implementing a more specifically family-focused strategy of learning and earning home computers and network access. Through this strategy, a parent (usually a single mother) works at learning and earning a family computer while her children are in school or in day care. Later in the day, her school-age children contribute to the family's learning and earning effort by participating in after-school peer tutoring.

The student peer-tutoring part of this strategy is building on the success of an earlier Coalition-designed after-school tutoring strategy in Chicago that began in early 1996. This strategic intervention into the learning ecology of a very poor community is being implemented by parents and students with the assistance of the Time Dollar Institute and funding from the Chicago Public Schools, with additional support from the Coalition's CPB grant. Since the start of this after-school tutoring strategy in Chicago, over 1,000 children from have-not households have learned and earned home computers, and the number of schools participating in the program has doubled.

As the community's Internet/Web-based learning and information networking becomes accessible to more and more learn-and-earn families in Coalition-affiliated communities, we expect to have students continuing their tutoring relationships online. We see this development as a further enhancement of a community's learning ecology, providing students a productive at-home learning alternative to time spent watching television. As an incentive for spending at-home time on learning that is directly related to improved in-school performance, both tutors and tutees continue earning Time Dollars. With these "dollars," they may purchase computer upgrades, faster modems, plus noncomputer "perks" such as donated tickets to professional ball games, "cool" items of clothing, and other Time-Dollar "perks" donated by local merchants. Students who become adept at Web skills may also earn Time Dollars by helping to create and maintain Web pages for their schools and other local organizations. In addition, computer-savvy students and adults are earning Time Dollars helping with a community's maintenance and repair of used business computers being donated for use in Coalition-affiliated communities by a growing nationwide network of businesses coordinated by the LINCT Coalition.

In early 1997, the Coalition began assisting two school–community collaboratives in poor, predominately Hispanic sections of Phoenix and Denver. In Phoenix, both the adult and student strategies of the Coalition's learn-and-earn computer training strategy have been implemented. In Denver, these strategies are still being introduced. In these two western communities, the Coalition's assistance is being supported in part by the federally funded Pacific/Southwest Regional

Education Technology Consortium (P/SW*RETC), plus the Coalition's CPB grant. In Phoenix, as on Long Island, the earning of Time Dollars is being extended beyond computer learning and earning to a broad range of community service jobs.

Conclusion

In all of the above implementations of the LINCT Coalition's strategy, the goal is to help communities to enhance the local learning ecology in ways that enable "have-not" families to become "computer-haves" through the learn-and-earn process. These communities are finding that this process is not only helping to strengthen in-school and at-home learning for students and job-ready computer skills for adults, it is also strengthening an important connection that many students and adults who become involved in the process had never quite made: "when I learn, I can also earn." Other important by-products are increased student, parent, and family self-esteem. For adults, we have found that this increased self-esteem often leads to the confidence to become a mentor for others. In a sense, we are seeing the peer-tutoring strategy transferring to the Coalition's adult computer training efforts. Many who have learned and earned their family computer are volunteering to help train their neighbors.

This "adults-mentoring-adults" by-product of the LINCT community-assistance strategy has recently led to a next step in the evolution of that strategy. This development is one through which the LINCT Coalition is generalizing the process of student peer tutoring and adult-to-adult mentoring to a process of community-to-community mentoring. This process will be a major thrust of the Coalition's activities throughout 1998. By means of this development, the community volunteers who have been responsible for the success of the LINCT strategy on Long Island will help the Coalition to mentor community members in Harlem and the Bronx. Community volunteers in Phoenix will help with the mentoring of their sister Hispanic community in Denver. In this manner, we intend to make it possible for the Coalition's strategy to become nationally scalable and self-sustaining from community to community. If your community is interested in becoming part of this effort, information is available on the LINCT Coalition Web site (*www.linct.org*). We welcome your participation.

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